

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20837 - L2 Version 2
Chandra X-Ray Center

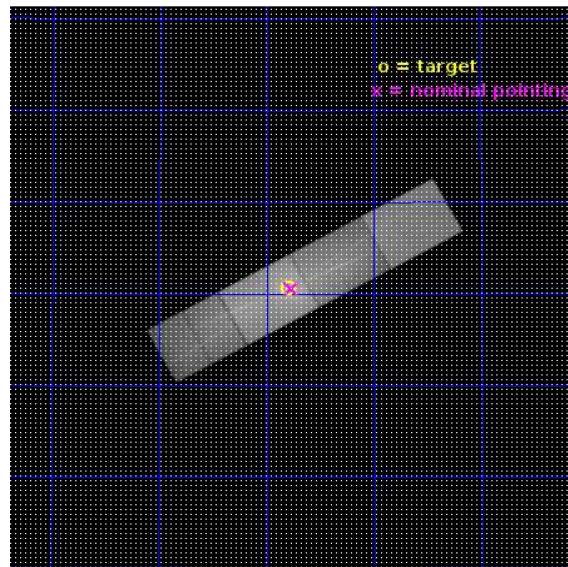
L2 Processing Date : Nov 2 2017

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

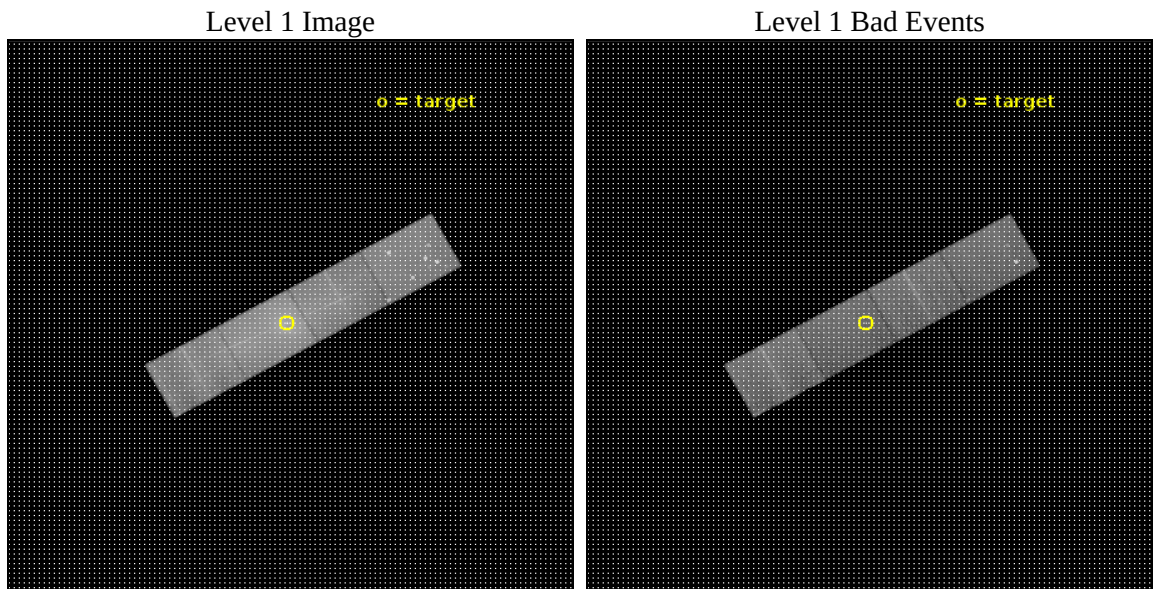
seq_num	703554	Sequence number
obs_id	20837	Observation id
title	Chandra/HETG Observations of NGC1275	Proposal title
observer	Christopher Reynolds	Principal investigator
object	NGC1275	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	49.950417	Observer's specified target RA [deg]
dec_targ	41.511667	Observer's specified target Dec [deg]
ra_nom	49.942424981123	Nominal RA [deg]
dec_nom	41.509751001001	Nominal Dec [deg]
roll_nom	151.16192415969	Nominal Roll [deg]
revision	2	Processing version of data
ontime	35087.999651313	Sum of GTIs [s]
livetime	34498.082441562	Livetime [s]
ontime5	35087.999651313	Sum of GTIs [s]
ontime6	35087.999651313	Sum of GTIs [s]
ontime7	35087.999651313	Sum of GTIs [s]
ontime8	35087.999651313	Sum of GTIs [s]
l2events	993988	Number of level 2 events



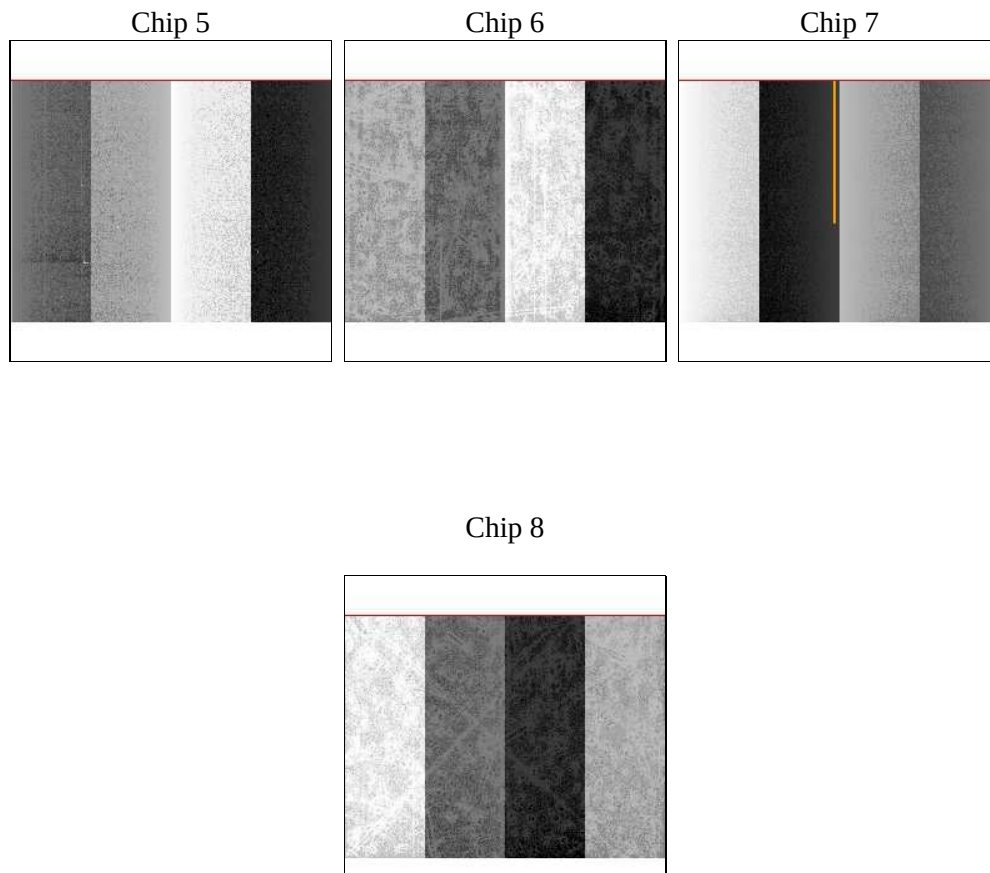
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	35000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	35087.999651313	Sum of GTIs [s]
caldsver	4.7.6	 	ontime5	35087.999651313	Sum of GTIs [s]
date	2017-11-01T05:09:58	Date and time of file creation	ontime6	35087.999651313	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	35087.999651313	Sum of GTIs [s]
			ontime8	35087.999651313	Sum of GTIs [s]
			l1events	1784891	Number of level 1 events
			tgmethod	MANUAL	Method used to create src1a file
			zo_pos	(4051.20, 4111.50)	src1a sky pixel position
			zo_pos_tgd	(4051.22, 4111.57)	src1a sky pixel position via radetect

2.1.4 Events

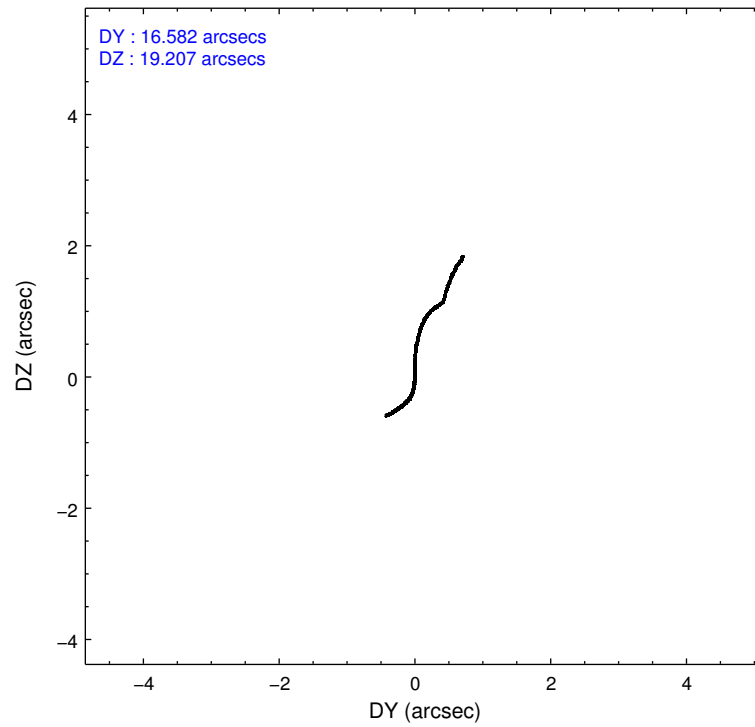
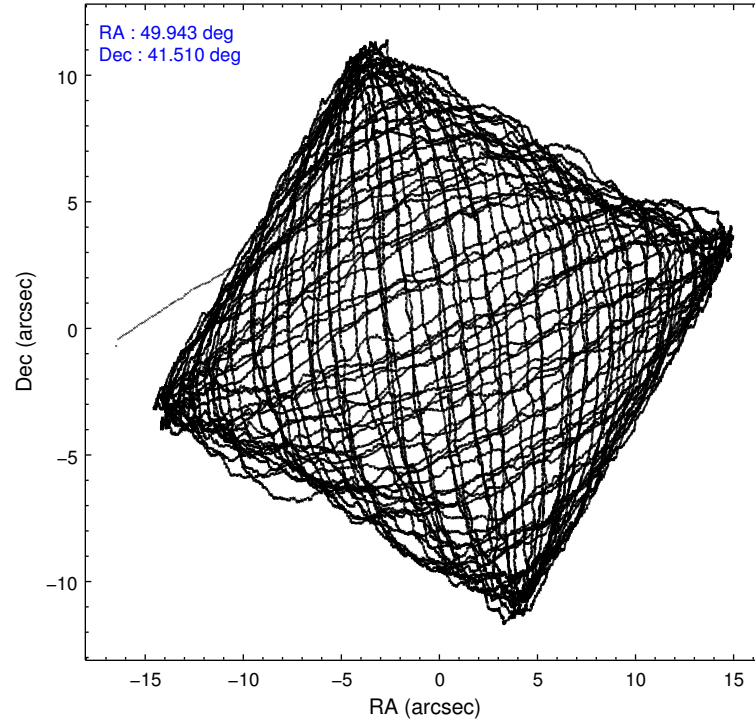
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	408787	394504	630310	351290
rejected events	168820	172755	141748	184972
rejected %	41%	43%	22%	52%

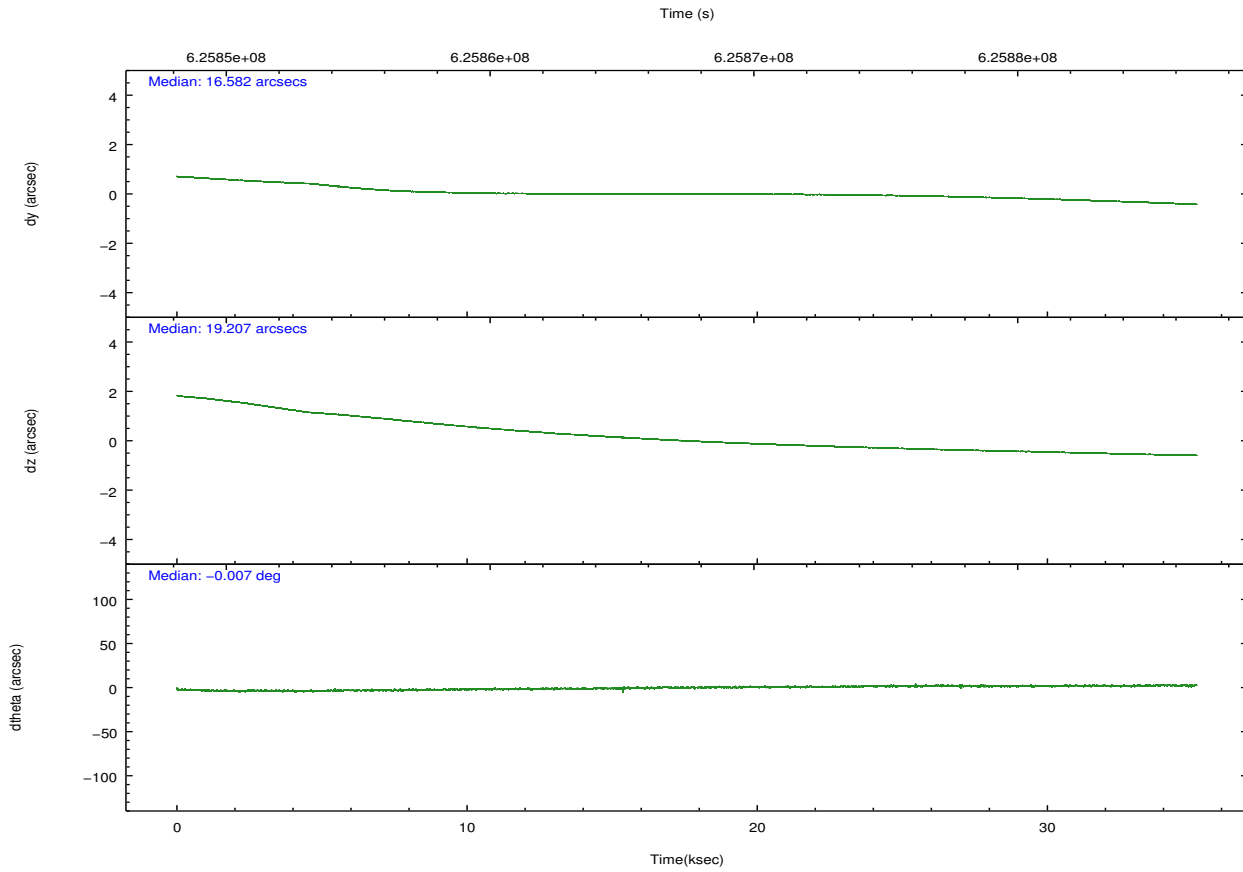
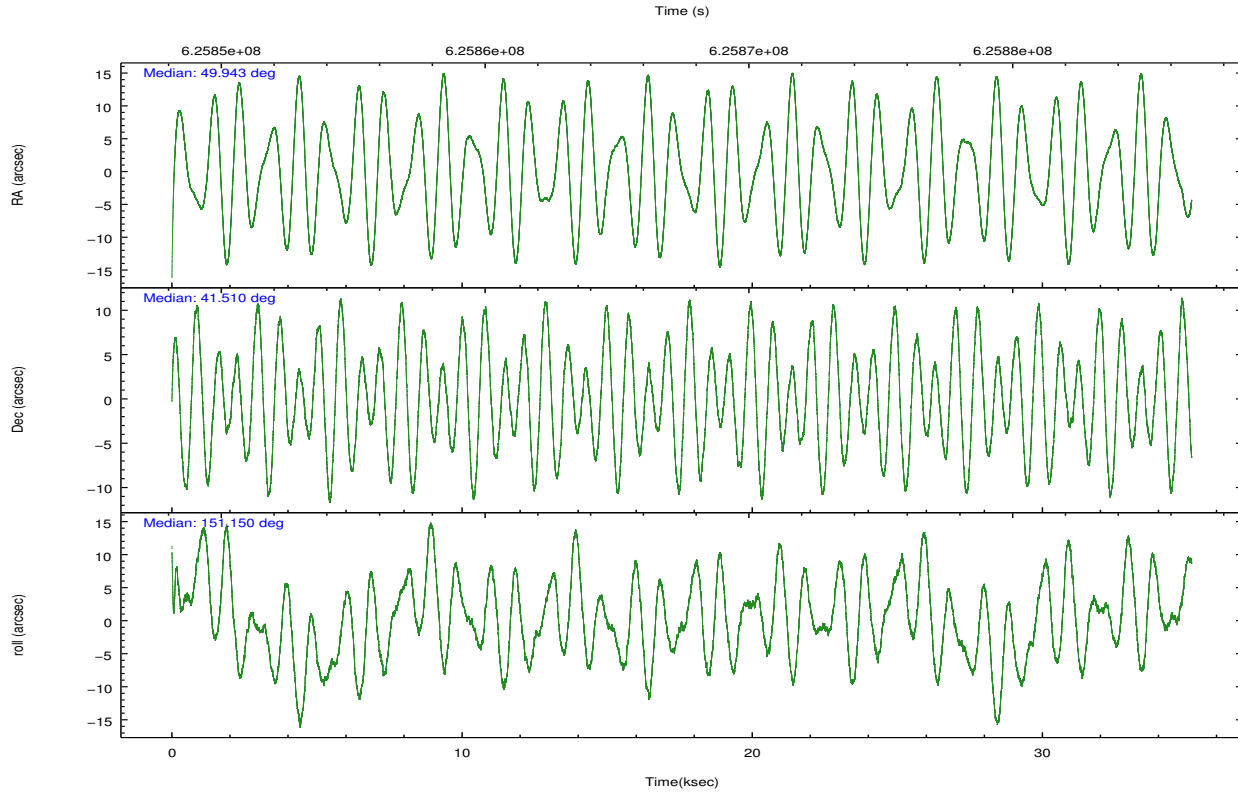
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	60839	159623	97572	97232
	14%	40%	15%	27%
grade 1 events	862	639	658	462
	0%	0%	0%	0%
grade 2 events	68551	29589	120021	27379
	16%	7%	19%	7%
grade 3 events	11143	9607	51943	10231
	2%	2%	8%	2%
grade 4 events	11277	9626	51286	9832
	2%	2%	8%	2%
grade 5 events	24752	9936	28406	13881
	6%	2%	4%	3%
grade 6 events	88207	13333	167813	21657
	21%	3%	26%	6%
grade 7 events	143156	162151	112611	170616
	35%	41%	17%	48%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	49.979062	49.94242498112318	CCD I2 on	N	N
[deg] Pointing Dec	41.510659	41.50975100100068	CCD I3 on	N	N
[deg] Pointing Roll	150.981017	151.1619241596854	CCD S0 on	O1	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	625850041.184000	625848801.72816	CCD S5 on	O2	N
Observation start date	2017-10-31T15:12:52	2017-10-31T14:53:21	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	625885041.184000	625885645.35532	On-chip summing requested	N	N
Observation end date	2017-11-01T00:56:12	2017-11-01T01:07:25	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	125	125
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.4

2.3 Aspect



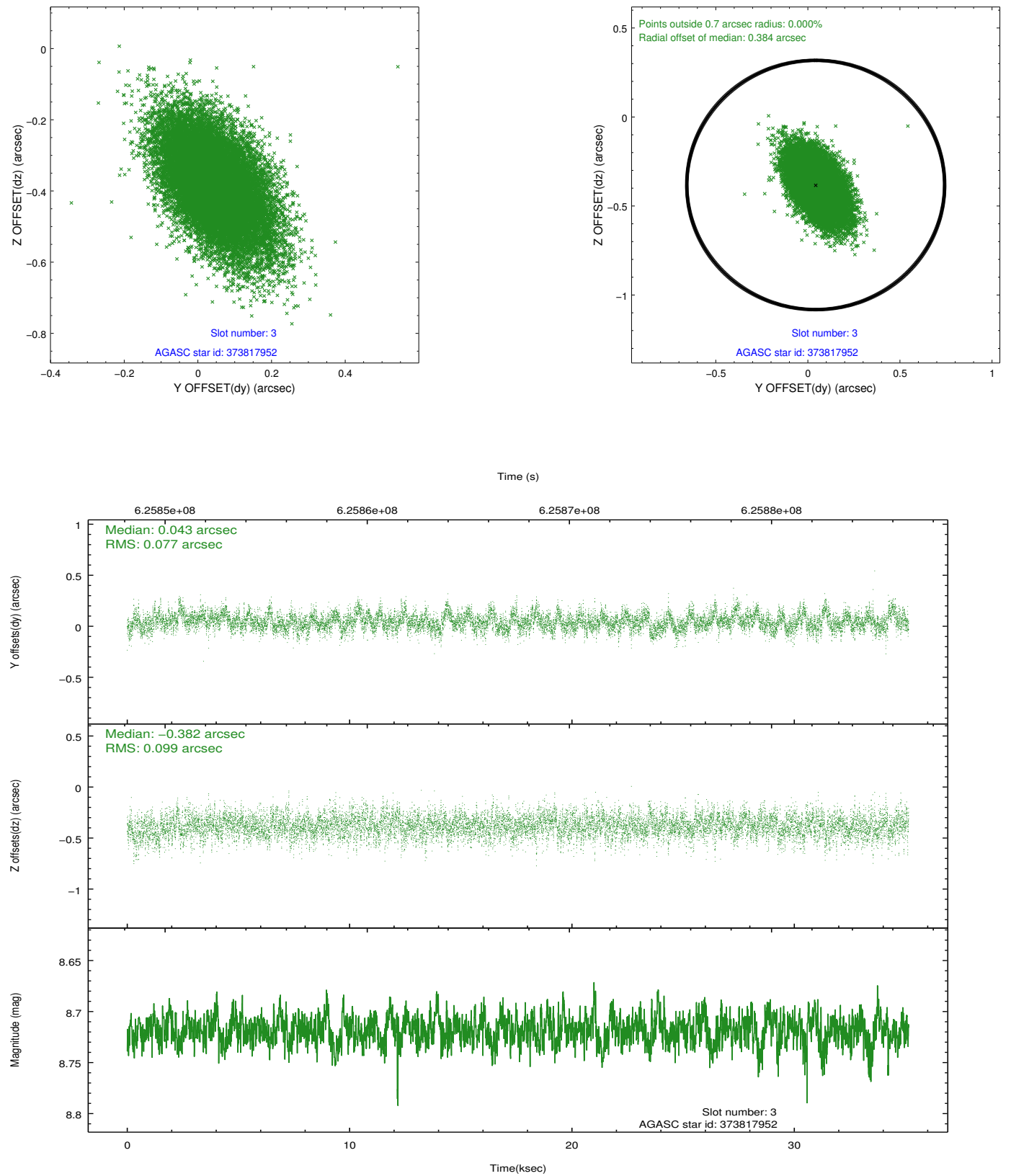


Slot Statistics

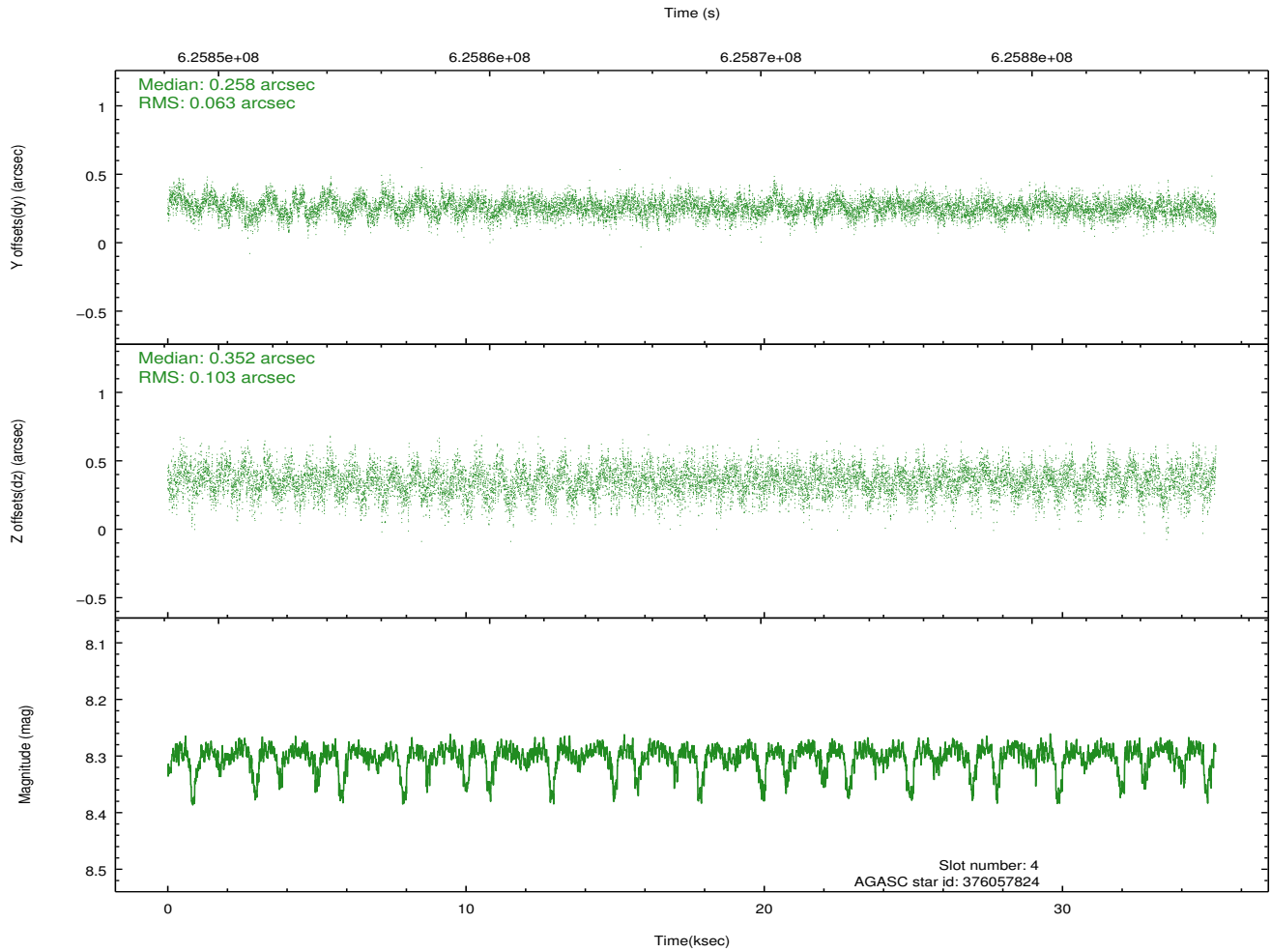
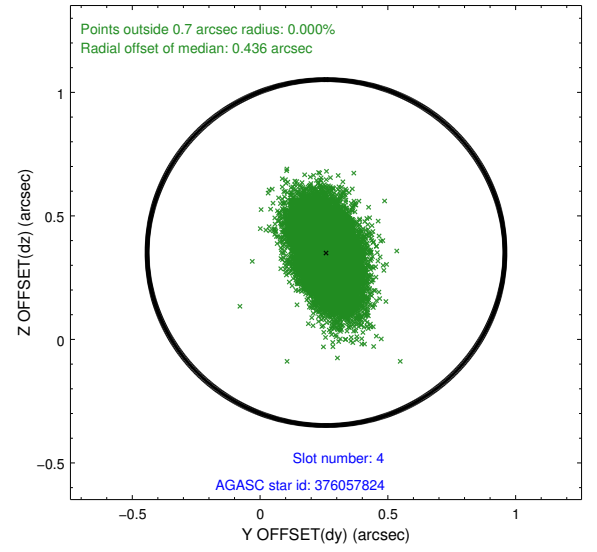
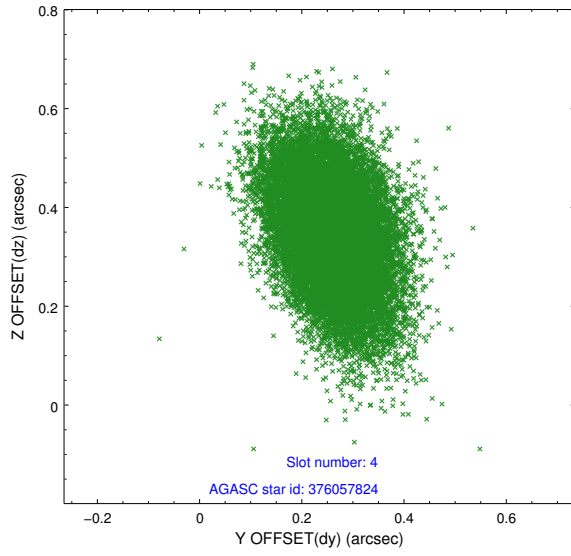
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-4	7.07	8570	0.371	0.018	0.011	0.018	0.000000	0.000000	2144.09	167.84
1	FID		ACIS-S-5	7.07	8573	-0.422	0.007	0.010	0.016	0.000000	0.000000	-1822.85	161.15
2	FID		ACIS-S-6	7.23	8572	0.022	-0.011	0.015	0.031	0.000000	0.000000	391.93	804.97
3	GUIDE	used	373817952	8.72	17132	0.043	-0.382	0.128	0.227	49.913424	40.978510	-773.47	1761.62
4	GUIDE	used	376057824	8.30	17141	0.258	0.352	0.124	0.218	50.665569	41.926280	-878.28	-2205.81
5	GUIDE	used	376070040	8.37	17134	-0.069	-0.070	0.129	0.222	50.072031	41.897206	457.48	-1337.48
6	GUIDE	used	374357808	8.64	17131	-0.171	0.066	0.134	0.231	49.921429	42.176083	1296.87	-2019.75
7	GUIDE	used	374352808	8.73	17125	-0.069	0.036	0.142	0.247	49.969955	42.208621	1240.76	-2184.89

2.4 Star Slots

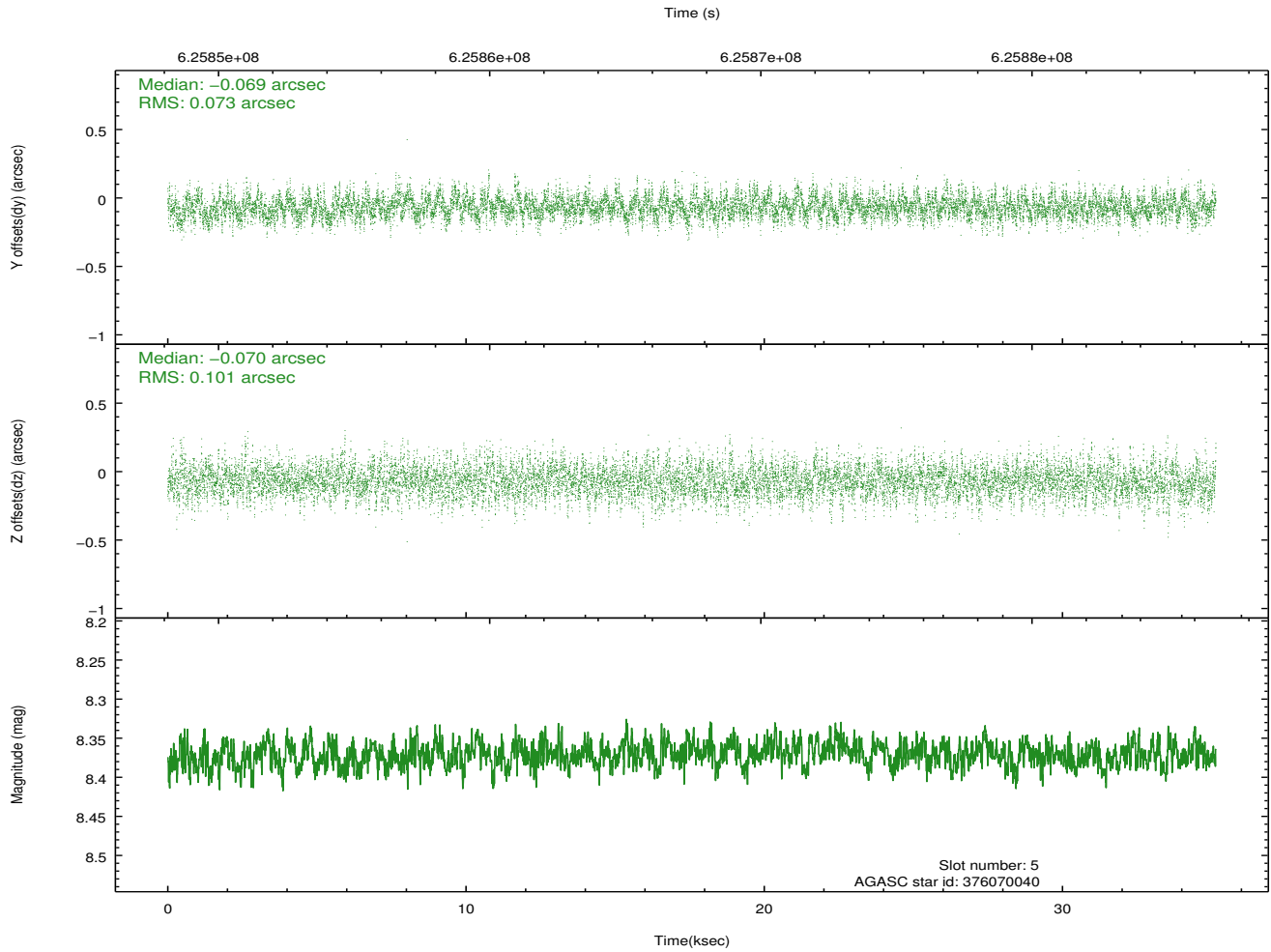
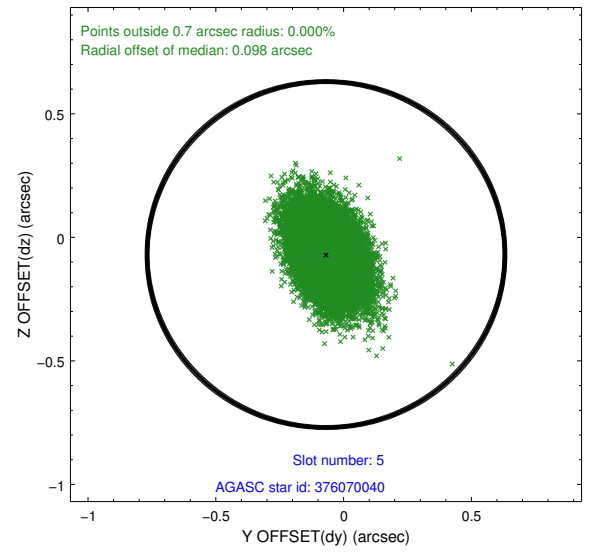
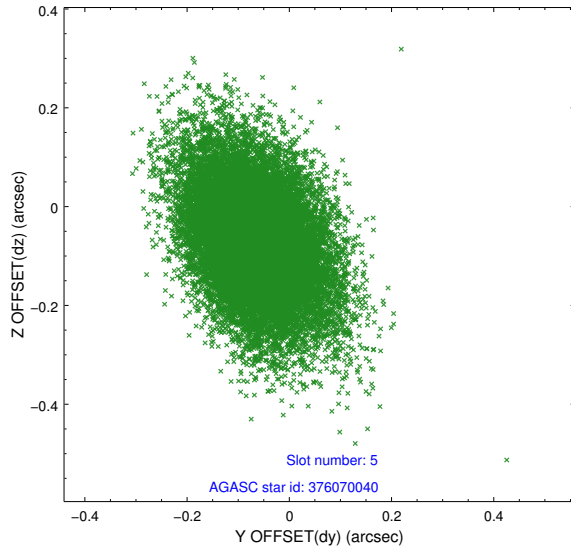
2.4.1 Slot 3



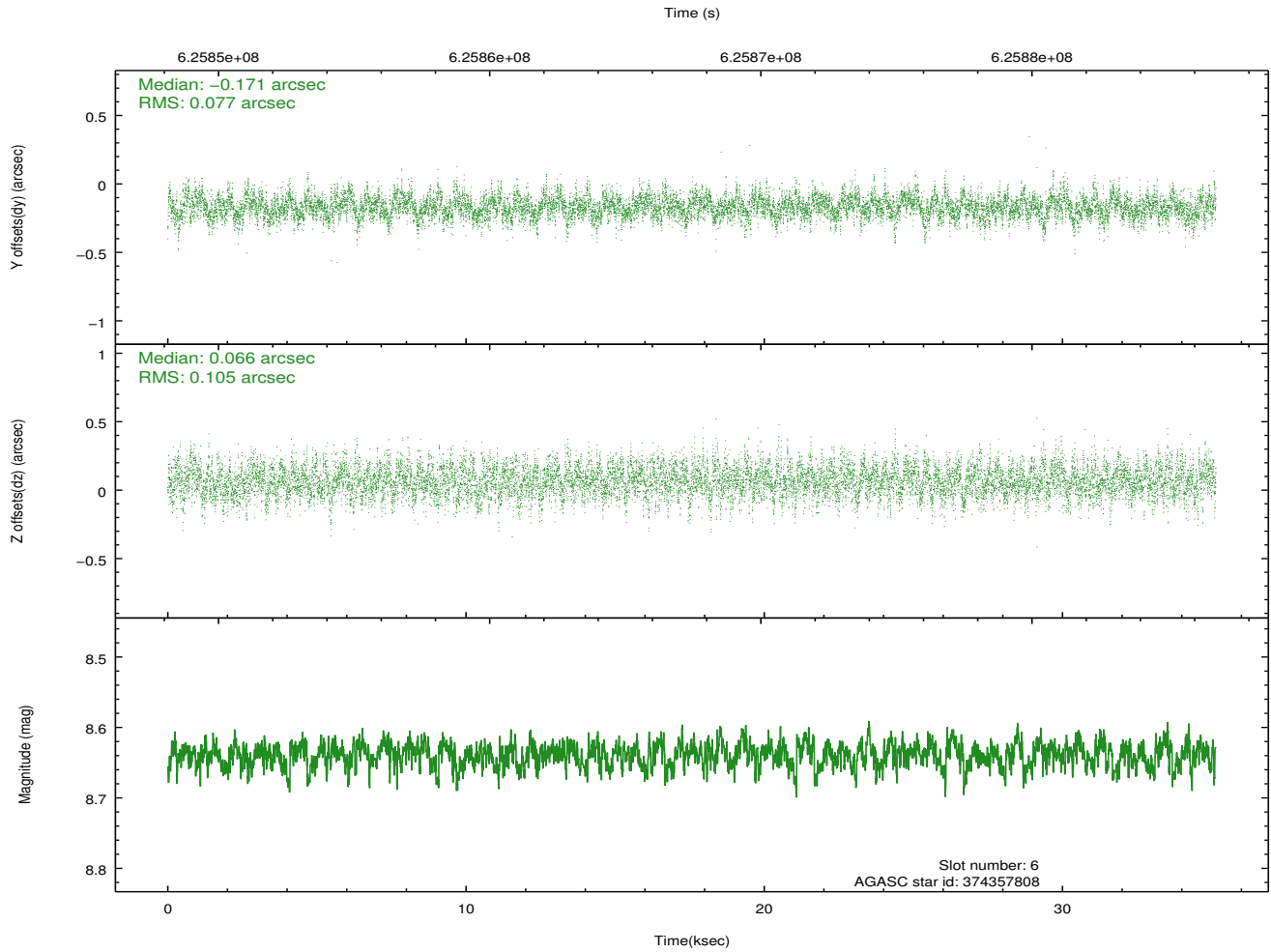
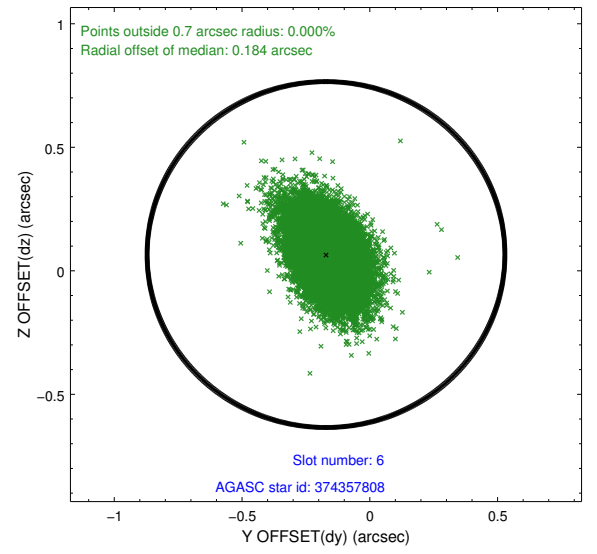
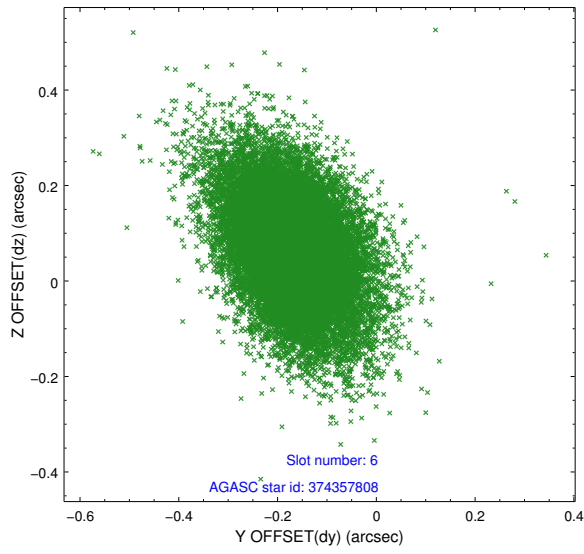
2.4.2 Slot 4



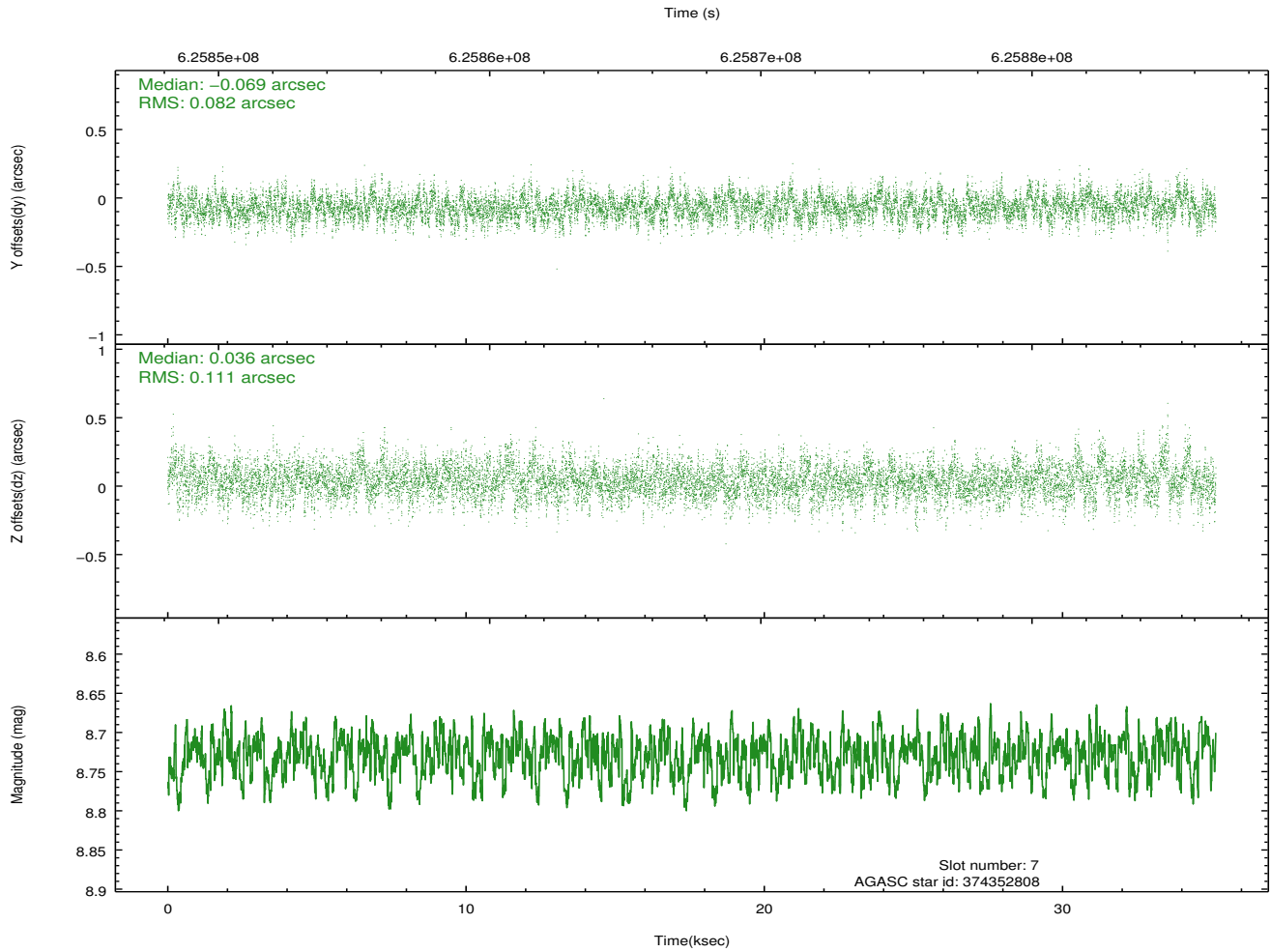
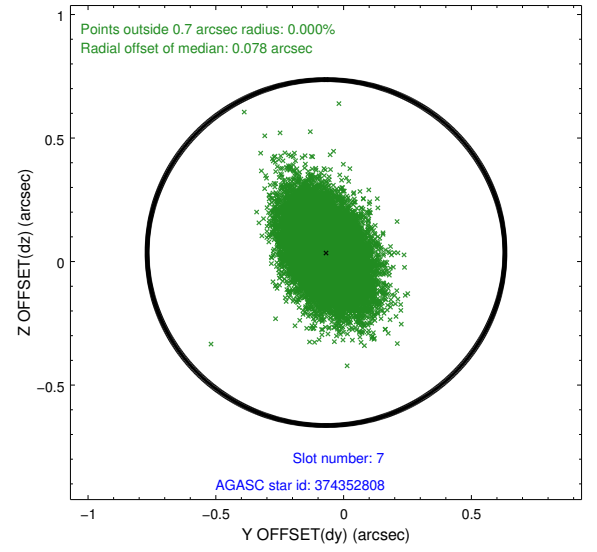
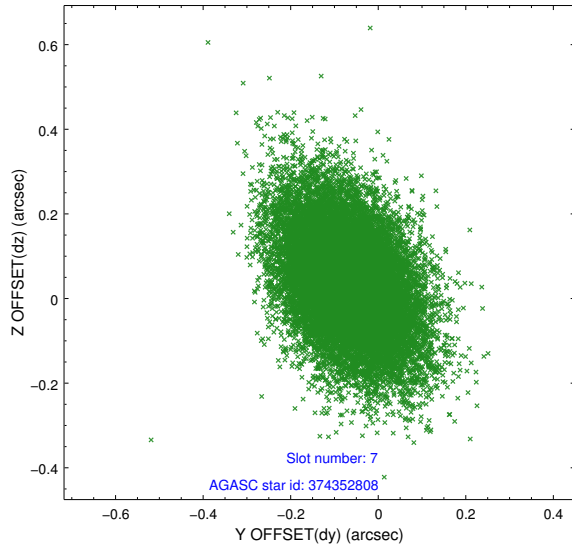
2.4.3 Slot 5



2.4.4 Slot 6

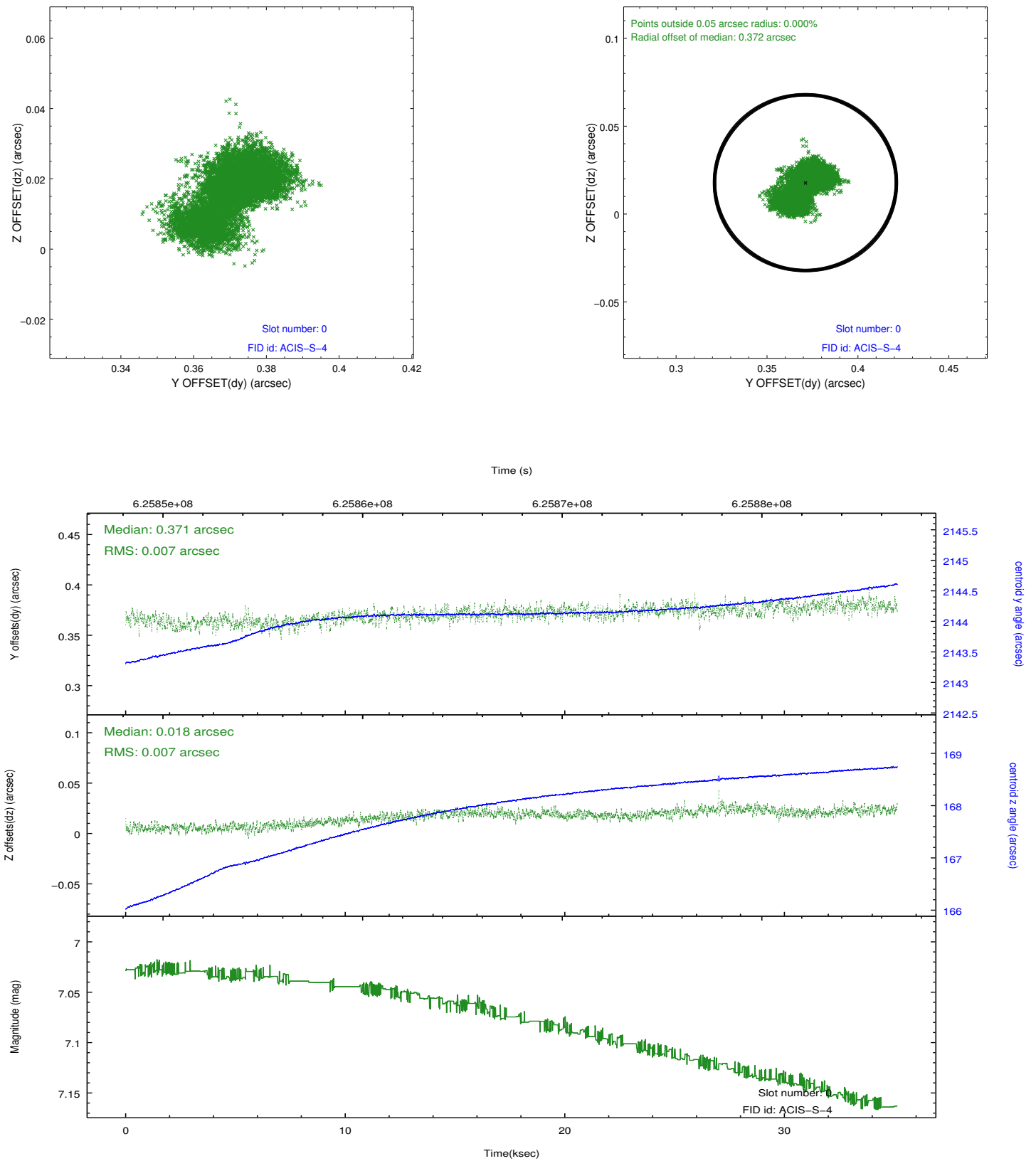


2.4.5 Slot 7

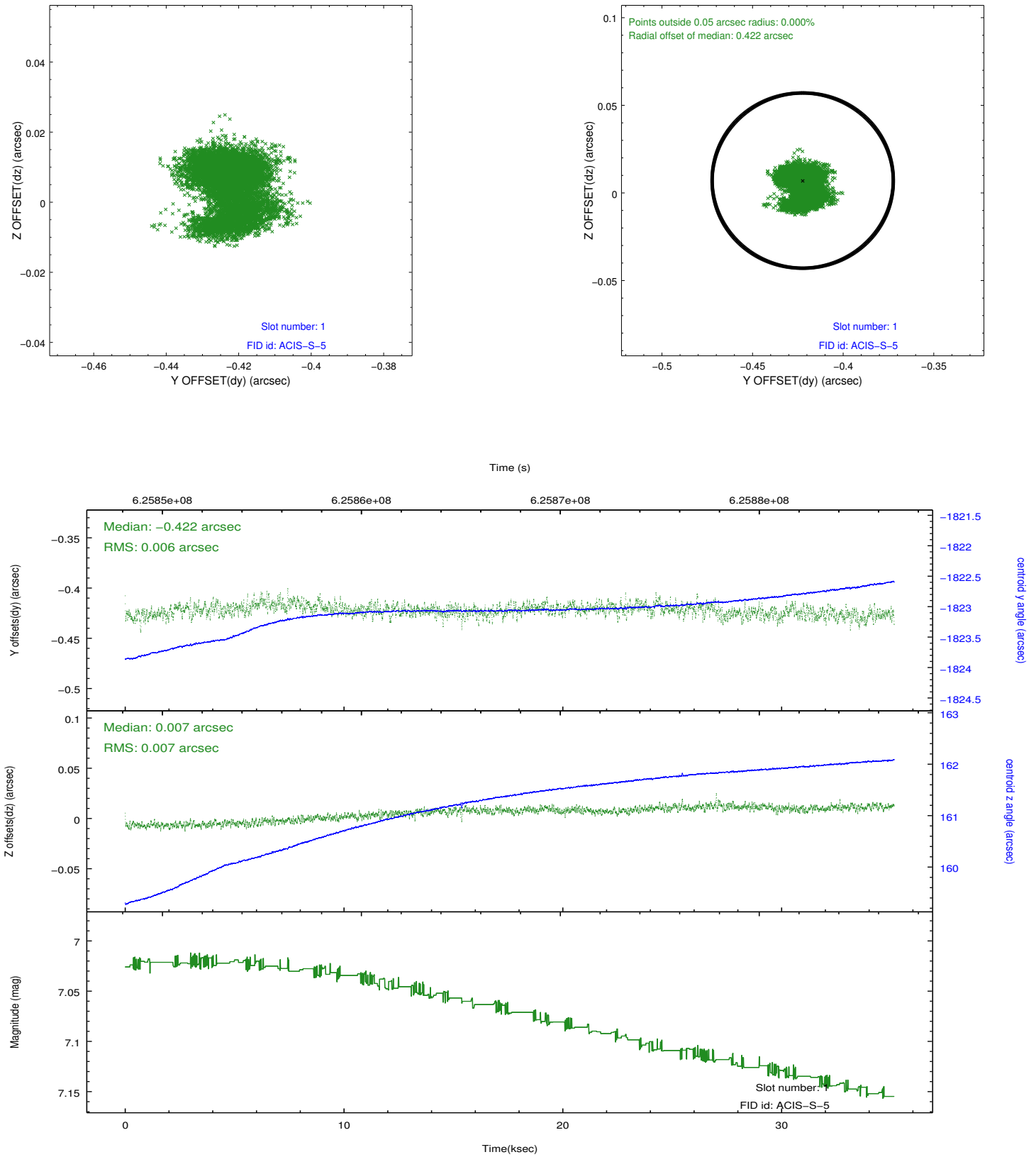


2.5 FID Slots

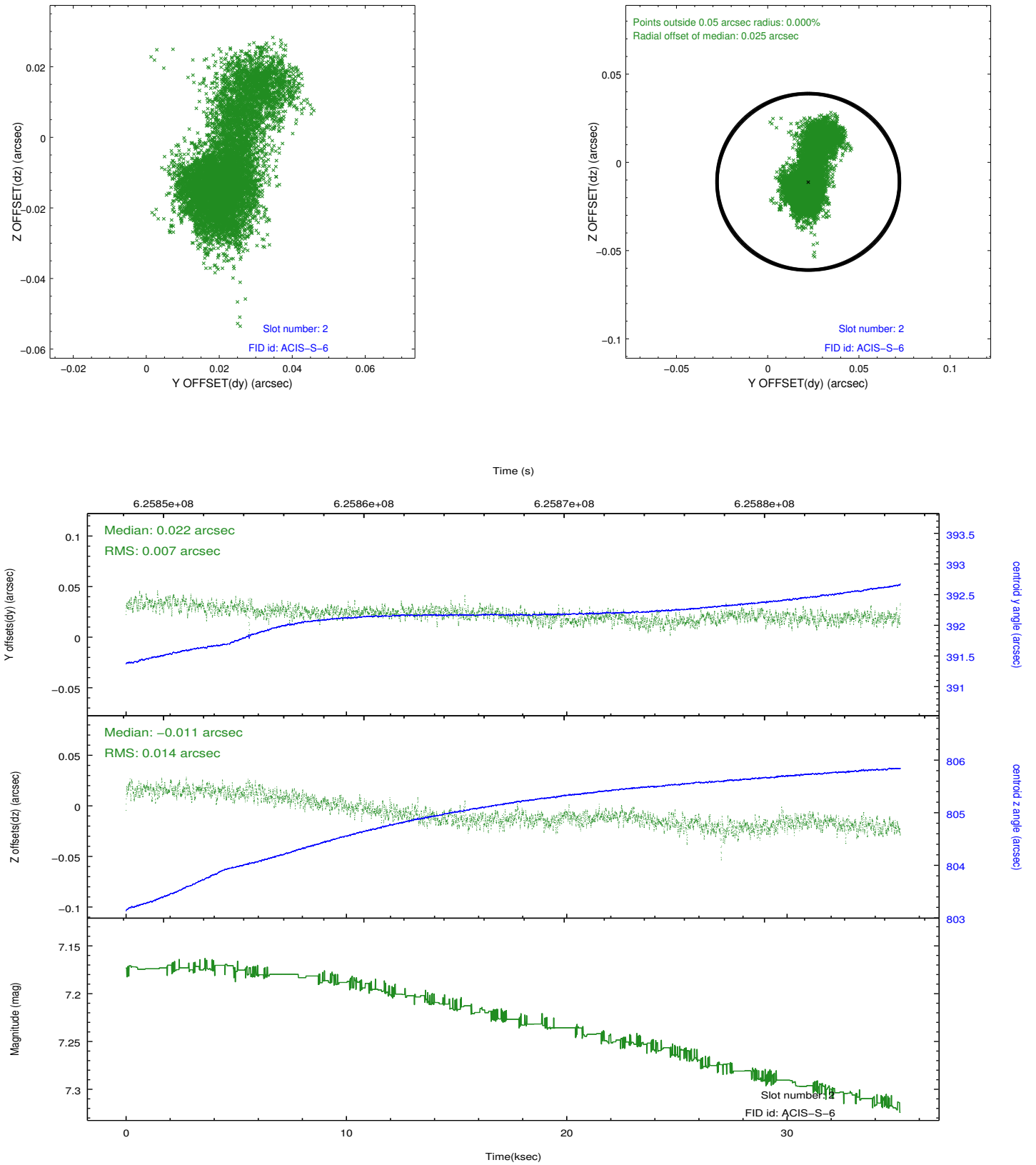
2.5.1 Slot 0



2.5.2 Slot 1

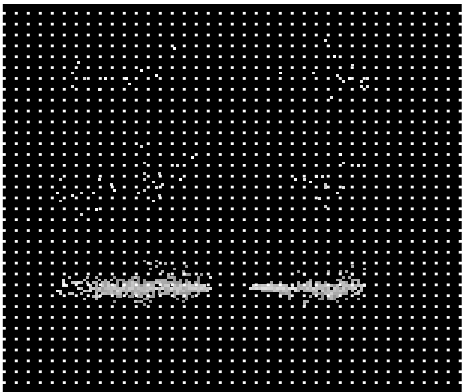


2.5.3 Slot 2

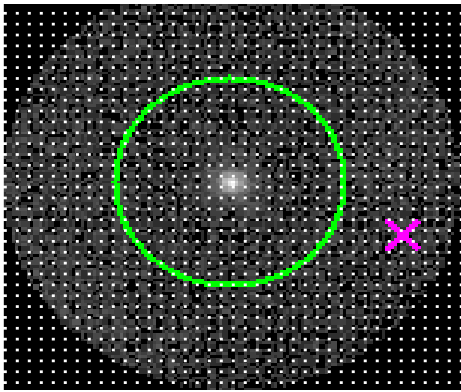


3 Gratings

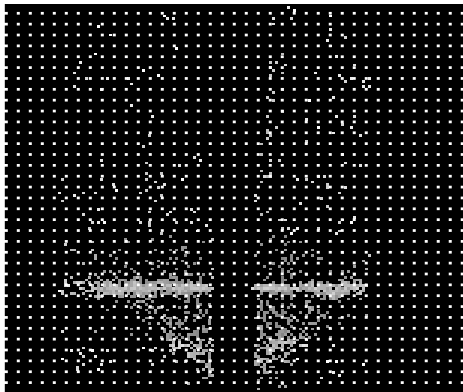
3.1 HEG Arm



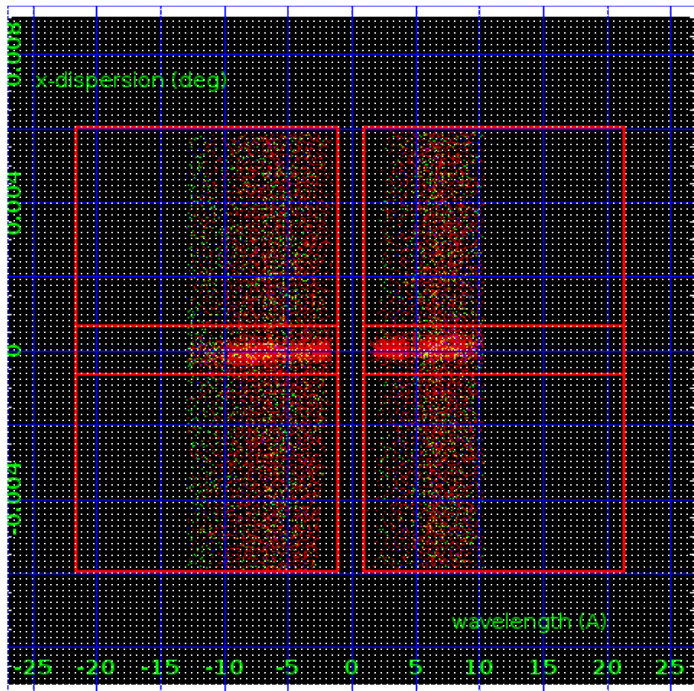
HEG Order Sort 123



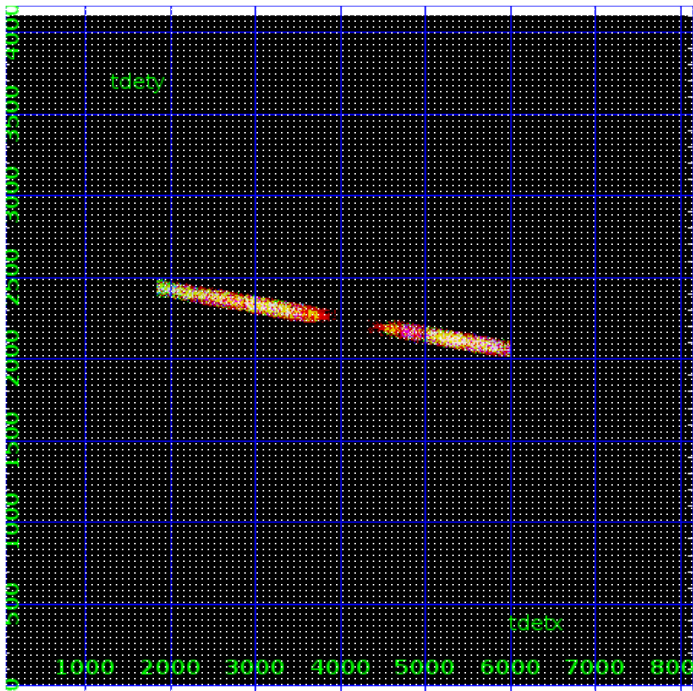
HEG Zero Order



HEG Order Sort ALL

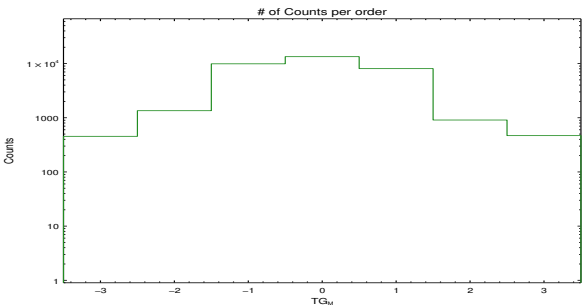


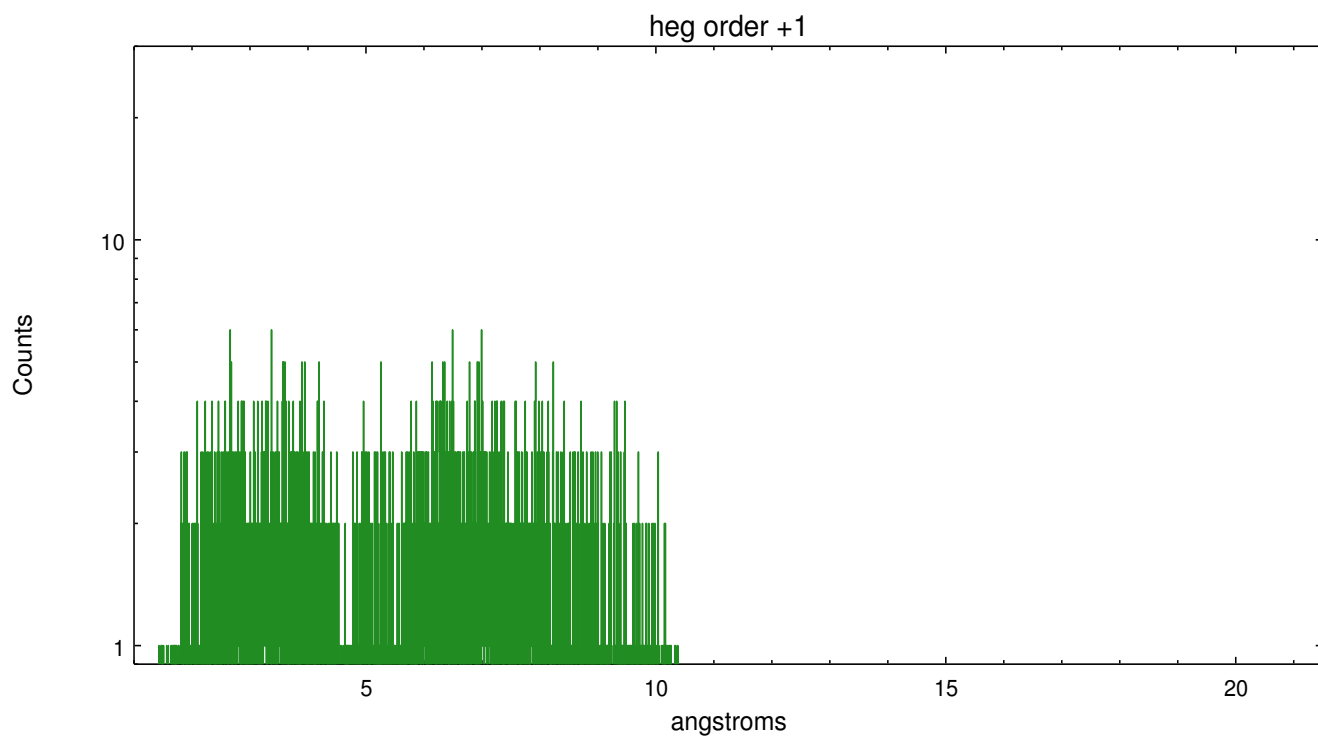
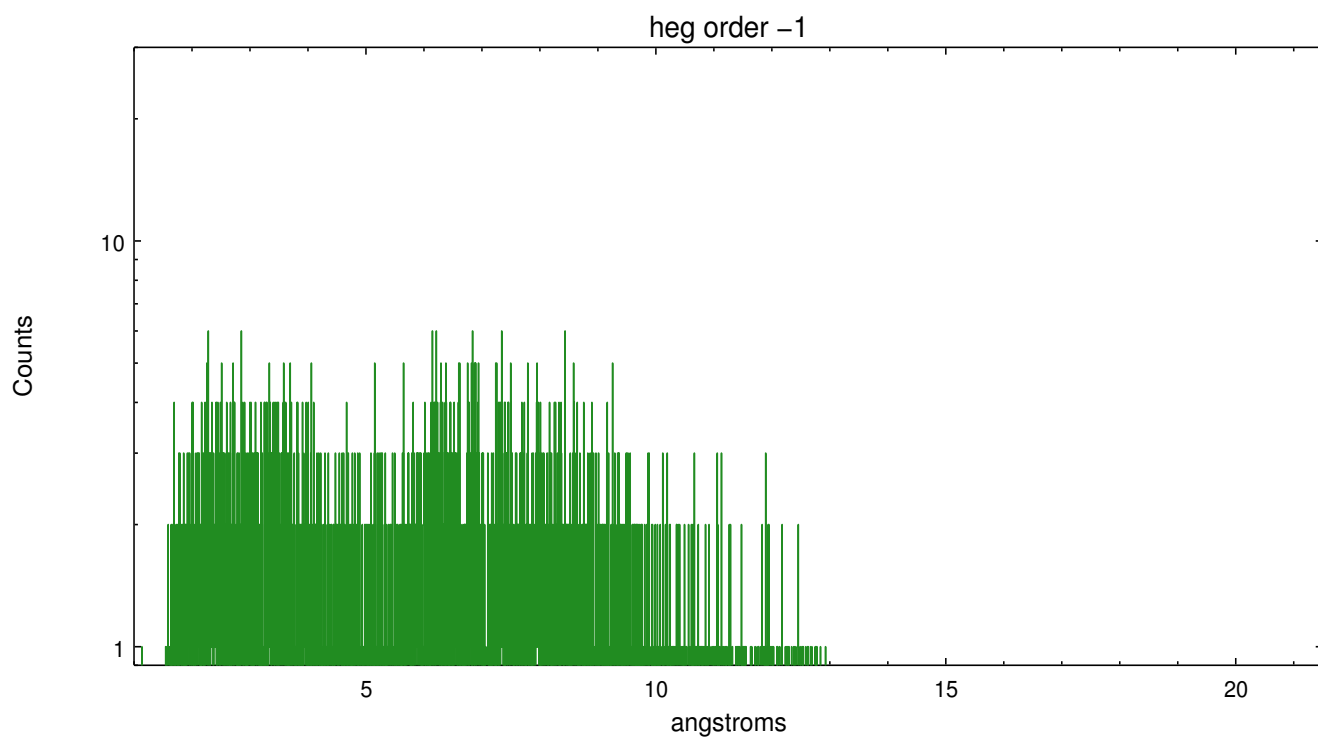
Spot Image HEG



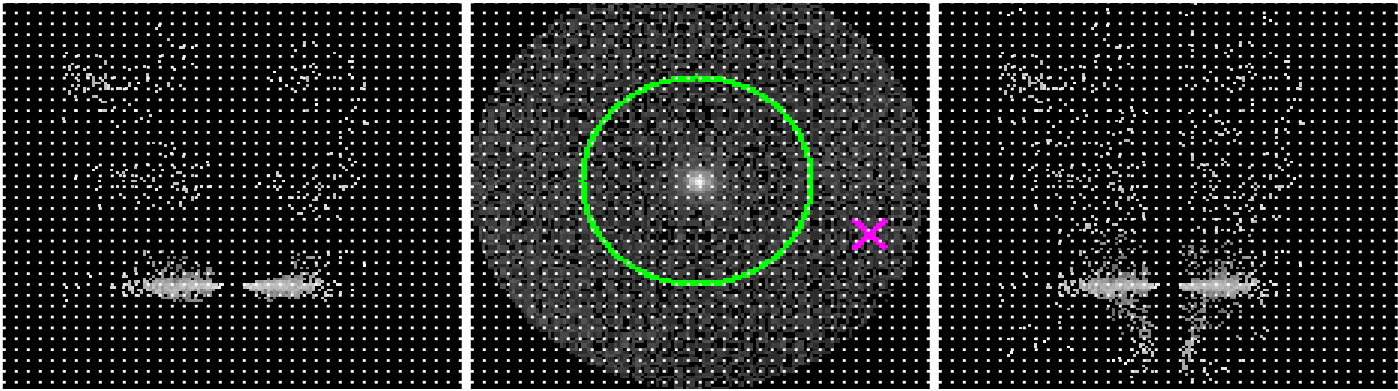
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	454	1350	9897	13409	8066	908	468





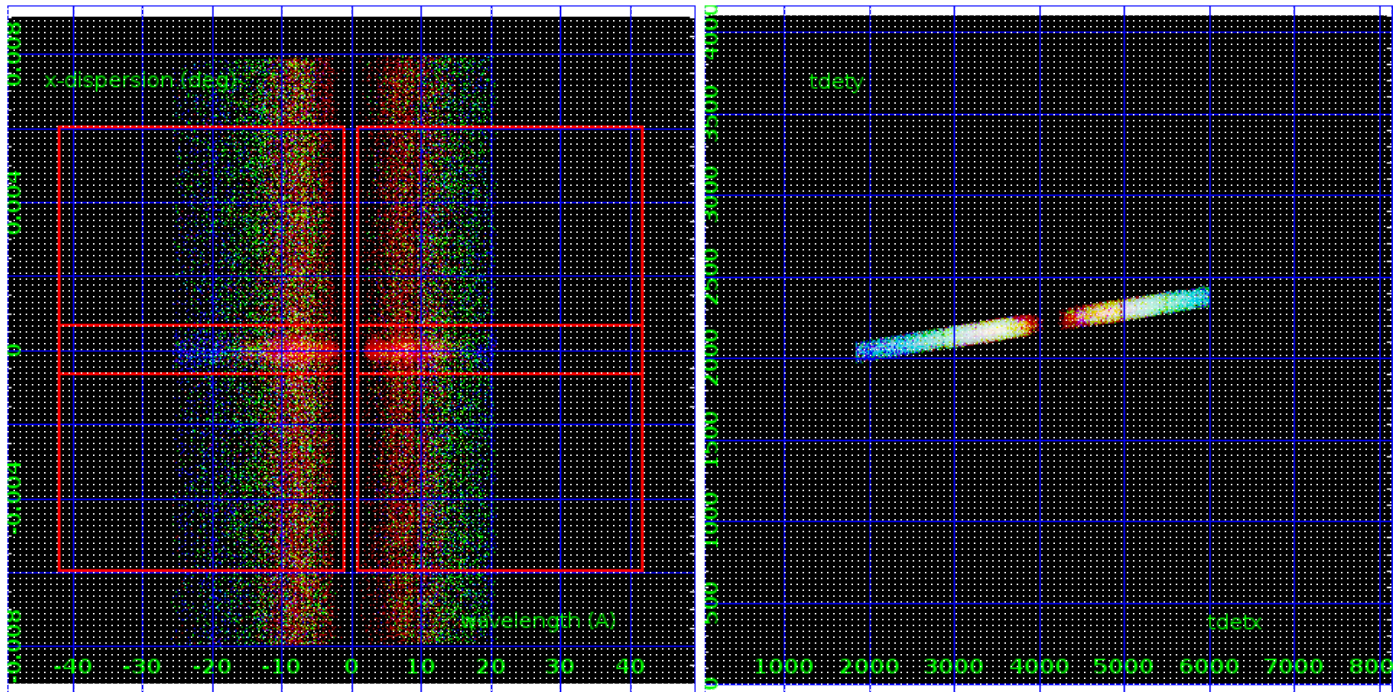
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

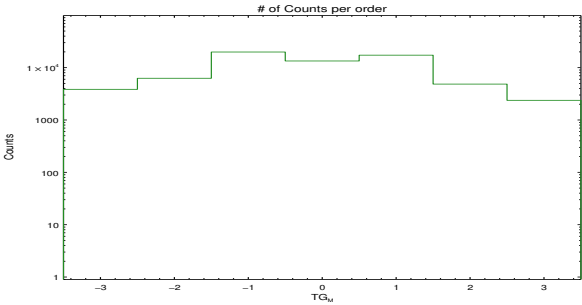
MEG Order Sort ALL

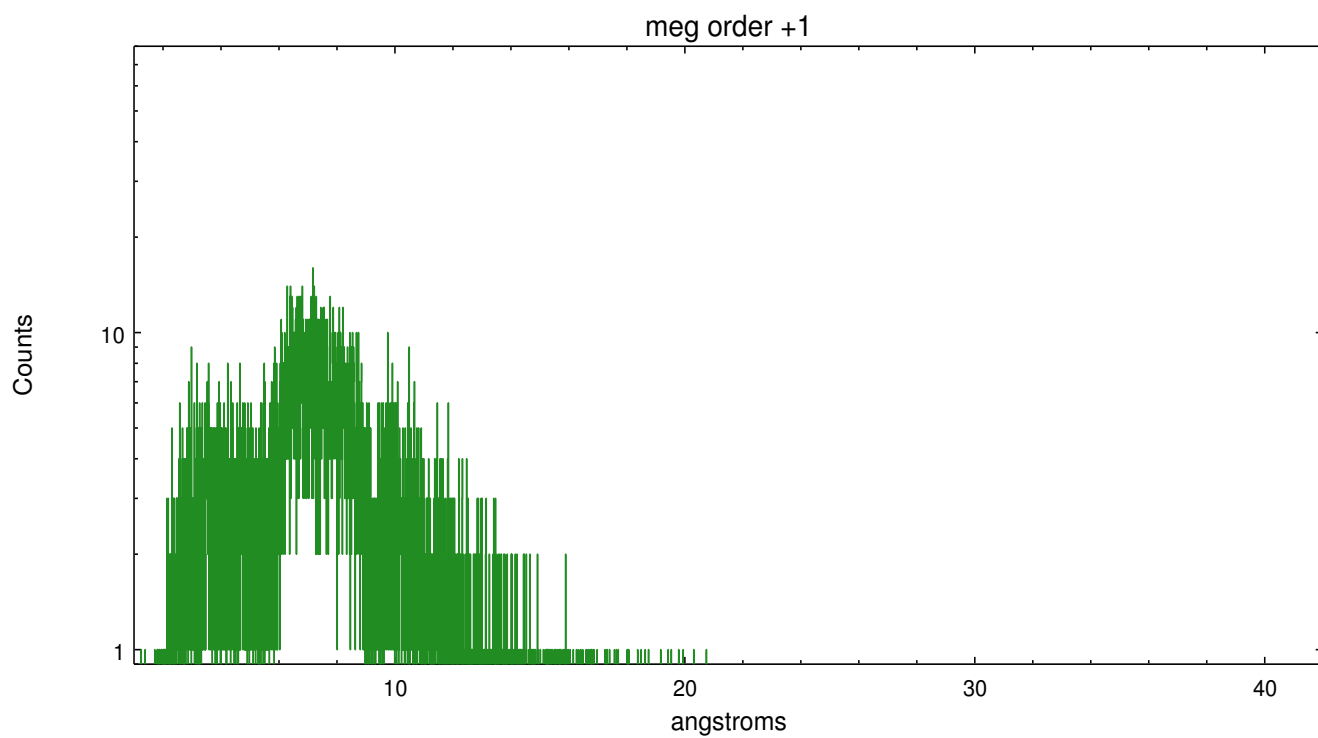
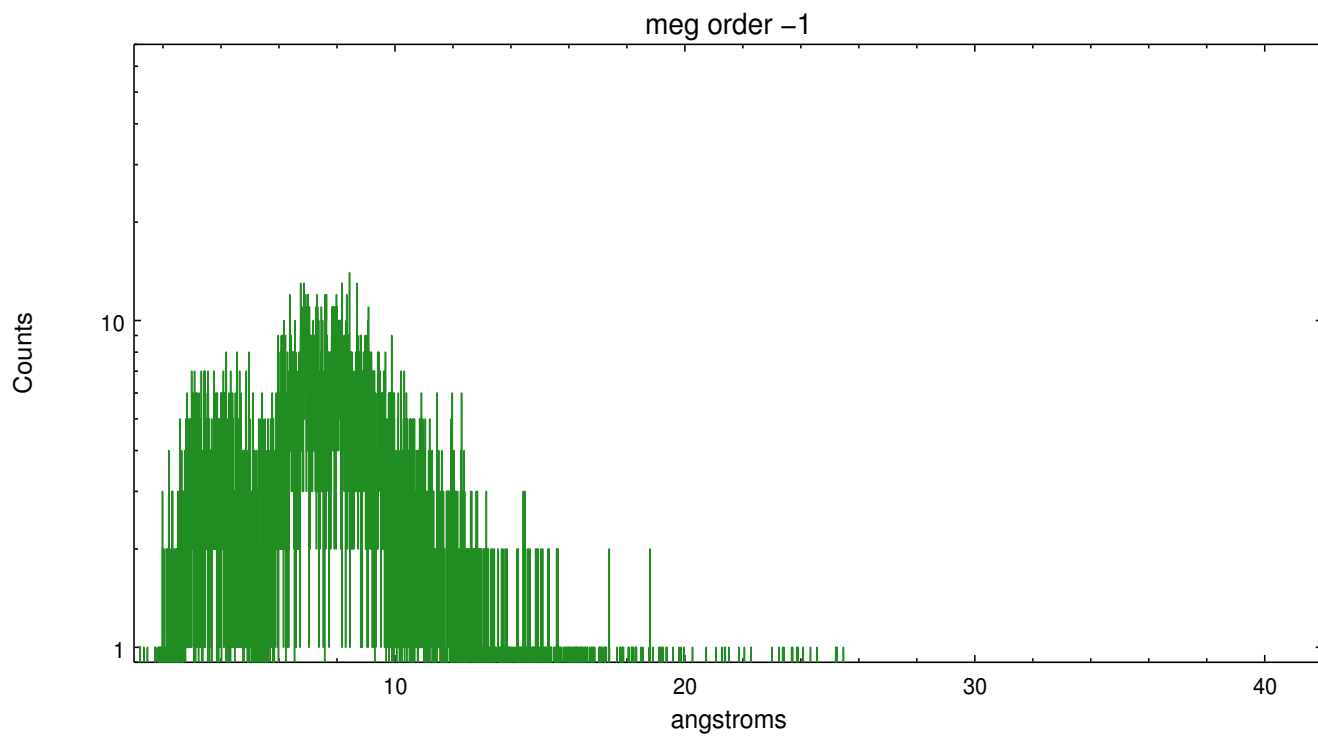


Spot Image MEG

Full Detector MEG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	3851	6263	19885	13409	17304	4849	2374





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2017.11.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	35.087999651313

A.2 Comments

Note: used manually determined centroid since automatic detection(
tgdetect2) was about a pixel off, probably due to extended emission.